

XIX.—On the Discovery of a new and gigantic Fossil Species of *Echidna* in Australia. By GERARD KREFFT, Curator and Secretary of the Australian Museum, Sydney.

To the Editors of the *Annals and Magazine of Natural History*.

GENTLEMEN,

In cataloguing the rich collection of Australian fossil remains in the Museum at Sydney, I observed, among other novelties, a fragment of the humerus of a gigantic *Echidna* (much larger

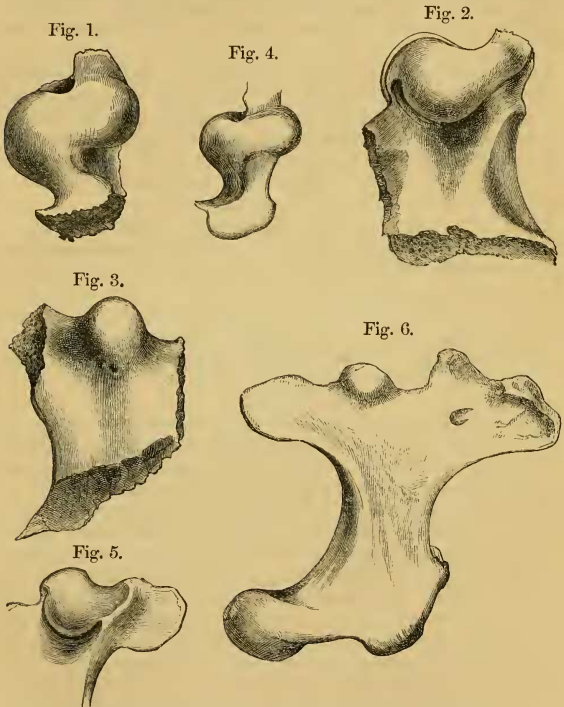


Fig. 1. Fragment of humerus of a fossil *Echidna*, view from above.  
 Fig. 2. Ditto, front view.      Fig. 3. Ditto, back view.  
 Fig. 4. Part of humerus of *Echidna hystrix*, corresponding to fig. 1.  
 Fig. 5. Ditto, back view, corresponding to fig. 3.  
 Fig. 6. Humerus of *Echidna hystrix*.

than the corresponding bone in any living Monotreme), whereof I beg to enclose drawings; the bone is seen from three different points of view,—to which are added sketches of the same part of an *Echidna hystrix* slightly enlarged. They may be figured, however, of the same size as the sketch, because I have before me the articulated skeleton of an *Echidna* in which the humerus is fully as large. The fragment in the possession of the trustees of this Institution is a portion of the distal part of this bone; the articulating surface, which fits into the sigmoid cavity of the ulna, is perfect; and, from its peculiar structure, it cannot well be mistaken for that of any other known mammal.

I have not yet seen any of the papers lately published by Professor Owen on Australian fossil remains; and as it is possible that a fossil *Echidna* is already described, I do not wish to name the present species; otherwise I should propose the specific term of *E. Owenii* for it.

I have the honour to be,  
Gentlemen,

Your very obedient Servant,

Australian Museum, Sydney.  
November 23, 1867.

GERARD KREFFT.

XX.—On the "Vitreous" Sponges. By Professor WYVILLE THOMSON, LL.D., F.R.S.E., F.G.S., M.R.I.A.

[Plate IV.]

THE classification of the PORIFERA is as yet extremely unsatisfactory. This arises chiefly from the circumstance that the essential part of a Sponge, the sarcode sheet investing the supporting framework, presents no visible distinctive characters, being apparently nearly the same in physical properties and in chemical composition throughout the whole series. Characters must therefore be founded upon accessory and comparatively unimportant parts; and these exhibit, with few exceptions, so finely graduated a series of minute variations that it is difficult to employ them in the definition of orders and suborders. Except in a few cases, but little stress can be placed upon the external form of the sponge-mass, even as a specific character. Often the general appearance of a sponge is characteristic enough, and a practised eye can easily recognize it in almost all its stages of growth; but it is impossible to embody the impressions on which this recognition is based in a description, or even to convey them by the most accurate figures. Hence the extreme difficulty in naming a collection